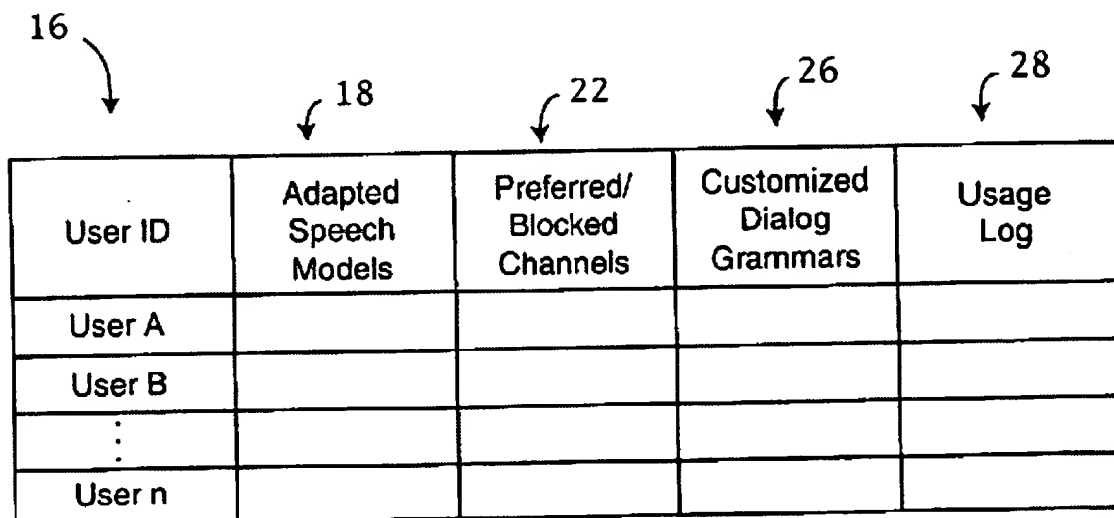## REMARKS

Claims 1-12 remain in this application.  Claims 8-12 are added.  In amended Figures 1 and 2, the previously omitted verbal labels have been added. With respect to the Examiner's rejections concerning Claims 1-7, Applicant respectfully requests reconsideration in view of the remarks hereinbelow.

Reconsideration of the Examiner's rejection of Claims 1, 3, 5, 6, and 7 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,415,257 (Junqua et al.) is respectfully requested.

A prior art reference anticipates an invention under 35 U.S.C. § 102 only if it contains all of its essential elements. With respect to Claims 1 and 7, Junqua et al. discloses the following in Figure 2 and Columns 2-3:

| User ID | Adapted Speech Models | Preferred/ Blocked Channels | Customized Dialog Grammars | Usage Log |
|---|---|---|---|---|
| User A | | | | |
| User B | | | | |
| ⋮ | | | | |
| User n | | | | |

In this regard, the system includes a user profile database 16 that stores user preferences and other information. A diagrammatic representation of a presently preferred user profile database is shown in FIG. 2.

Referring to FIG. 2 the preferred user profile database includes records for each user, that contain information about the user's speech patterns and viewing preferences. More specifically, the database stores adapted speech models as at 18. These are loaded into the speech model memory space 20 (FIG. 1) so that they are used by speech recognizer 12 to decode the speech for that user. The adapted speech models may be trained as the system is used by each user. A presently preferred technique for constructing the adapted speech models will be discussed more fully below.

The user profile database 16 also stores a record of which channels the user prefers to view; and alternatively, which channels are blocked so that the user will not view them. This latter feature is quite useful for parents who wish to

block certain channels from their children. The system records this information as at **22** in the database, and it is thereafter used to control which channels are available to the particular user whose speech has been identified by the speaker verification module **14**.

The system includes a natural language parser **24** (FIG. **1**) that uses a set of pre-defined grammars to ascertain the semantics or meaning expressed by the user. The user profile database **16** includes storage of a set of customized dialog grammars as at **26**. These customized grammars are used by the natural language parser along with a set of pre-defined grammars that are global to all users. Details of the presently preferred parser and its use of pre-defined and customized dialog grammars will be discussed more fully below.

Finally, the presently preferred user profile database includes a usage log as at **28** for each user. The usage log maintains a record of what programs the user has viewed in the past. The usage log can be used by the natural language parser, to more rapidly ascertain the meaning of a user's spoken command. For example, programs the user has viewed in the past may be given preference by the natural language parser when it is trying to determine what program the user is requesting. The usage log can also be used to limit the number of hours certain viewers are allowed to watch the television in any given day, a feature many parents will find helpful.

While Junqua et al. does disclose a Usage Log that stores past viewed programs and the number of hours of television being watched by a user on a given day, Junqua et al. does not disclose "the user models contain details about the style of speech of user inputs and/or indications about interactions in dialogs between users and the dialog system," which is an essential element of Claims 1 and 7. Therefore, the reference does not anticipate Claims 1 and 7, nor by extension Claims 2-6 which depend from Claim 1.

Further, with respect to Claims 1 and 7, Junqua et al. discloses the aforementioned, but does not disclose "adaptation of contents and/or form of system outputs is provided in dependence on the user models," which is an essential element of Claims 1 and 7. Therefore, the reference does not anticipate Claims 1 and 7, nor by extension Claims 2-6 which depend from Claim 1.

With respect to Claim 3, Junqua et al. discloses the following in Column 7:

example, an input sentence could have insertion or deletion errors. The combining phase determines which tags form a more meaningful interpretation of the input. The parser **24** defines heuristics and makes a selection based on them using a N-Best candidate selection process. Each generated tag corresponds to a set of words in the input word string, called the tag's cover-set.

A heuristic is used that takes into account the cover-sets of the tags used to generate a score. The score roughly depends on the size of the cover-set, the sizes in the number of the words of the gaps within the covered items, and the weights assigned to the presence of certain keywords. In the preferred embodiment, ASR-derived confidence vector and dialog context information are utilized to assign priorities to the tags. For example applying channel-tags parsing first potentially removes channel-related numbers that are easier to identify uniquely from the input stream, and leaves fewer numbers to create ambiguities with other tags. Preferably, dialog context information is used to adjust the priorities.
N-Best Candidates Selection

At the end of each pass, an N-best processor **270** selects the N-best candidates based upon the scores associated with the tags and generates the topic-tags, each representing the information found in the corresponding parse-tree. Once topics have been discovered this way, the corresponding words in the input can be substituted with the tag information. This substitution transformation eliminates the corresponding words from the current input text. The output **280** of each pass is fed-back to the next pass as the new input, since the substitutions may help in the elimination of certain ambiguities among competing grammars or help generate better parse-trees by filtering out overlapping symbols.

While Junqua et al. does disclose the use of confidence vectors to improve the accuracy of speech recognition, Junqua et al. does not disclose "the user models contain estimates for the reliability of recognition results derived from user inputs," which is an essential element of Claim 3. Therefore, the reference does not anticipate Claim 3, nor by extension Claim 4 which depends therefrom.

Other Ref.: PHLP019US0

Reconsideration of the Examiner's rejection of Claims 2 and 4 under 35 U.S.C. § 103 as obvious based on Junqua et al. and Non-Patent Document U on Notice of References Cited (Larsen). A single prior art reference or a combination of prior art references renders an invention obvious under 35 U.S.C. § 103 if a hypothetical person with ordinary skill and knowledge in the art to which the invention pertains with full knowledge of all the pertinent prior art, when faced with the problem to which the claimed invention is addressed, would be led naturally to the solution adopted in the claimed invention or at least would naturally view that solution as an available alternative. The Examiner concludes that Junqua et al. does not disclose "in addition to the input modality to use user inputs by means of speech, at least a further input modality is provided." Applicant respectfully agrees.

With respect to Claims 2 and 4, Larsen et al. discloses the following in the APPLICATION SECTION on pages 66-67:

> The overall functionality of the application is as follows: The system prompts for the user's Id and PIN numbers. After this, the main dialogue task is entered, and the user can request account information as either a balance or the most recent movements on his/her accounts. In the experiment all users have three accounts. The application is bi-modal as the user can switch to DTMF input at any point in the dialog. Either on his own initiative (e.g. when submitting Id and PIN numbers), or on advise from the system (e.g. after repeated misrecognitions). ...

While Larsen et al. does disclose advising the user to switch input modalities after repeated misrecognitions, neither Junqua et al. nor Larsen et al. discloses "user models contain details about the respective use of the various input modalities by the user," which is an essential element of the claim. Therefore, the references do not render Claim 2 obvious.

Further with respect to Claim 2, the Examiner admits that Junqua et al. modified by Larsen et al. still fails to disclose a dialog system characterized in that the user models contain details about the respective use of the various input modalities by the user. Despite this, the Examiner presents the conclusory statement that Claim 2 would have been obvious. Applicant respectfully disagrees with this conclusory statement and respectfully requests that the Examiner cite a reference or other evidence which supports the conclusory statement.

Moreover, with respect to Claim 4, Applicant agrees with the Examiner that Junqua et al. does not disclose a dialog system characterized in that in dependence on the estimates, system responses are generated which prompt the

respective user to use such input modalities for which high estimate values were determined and/or which prevent the respective user from using input modalities for which low reliability values were determined. In this regard, Larsen does not disclose "in dependence on the estimates, system responses are generated which prompt the respective user to use such input modalities for which high estimate values were determined and/or which prevent the respective user from using input modalities for which low reliability values were determined," which is an essential element of Claim 4. Therefore, the references do not render Claim 4 obvious.

The applicant submits that new Claims 8-12 are allowable over Junqua et al., Larsen et al., and any combination of the thereof. Neither Junqua et al. discloses usage logs, and Larsen et al. discloses a mixed-initiative dialog management model. However, neither Junqua et al. nor Larsen et al. disclose the user models of Claim 8. In particular, neither Junqua et al. nor Larsen et al. disclose "defining at least one system output based on the speech input and a user model," which is an essential element of Claim 8. Therefore, neither of the references, singly or in combination, render Claim 8 obvious.

\* \* \*

Should any unenclosed or additional fees be required under Rules 1.16 – 1.21 for any reason relating to the enclosed materials, the Commissioner is authorized to deduct said fees from Hulsey Grether + Fortkort LLP's Deposit Account No. 50-2726.

The applicant believes that the foregoing fully responds to all outstanding matters, respectfully submits that all remaining claims are in condition for allowance, and respectfully requests that a timely Notice of Allowance be issued so the present application may swiftly pass to issuance.

Respectfully Submitted,

HULSEY GRETHER + FORTKORT LLP

By _____

Aaron A. Weiss
Reg. No. 46,163
(512) 279-3100